

WHAT IS CLAIMED IS:

1. A method of controlling the amount of codes generated during re-coding in conversion of a first bitstream obtained by efficient coding of a moving-picture video signal to a second bitstream, the method comprising the steps of:

extracting, from the first bitstream, at least either information on code amount or information on quantization, as a parameter indicating moving-picture coding difficulty;

obtaining, from the parameter per given period, an amount of quasi-generated codes which is estimated to be required for achieving a given picture quality;

adjusting the amount of quasi-generated codes for each of the given period to obtain a target code amount;

assigning the target code amount to a given portion of the moving-picture video signal so that a total code amount of the given portion of the moving-picture video signal matches a recordable total code amount for a storage medium for storing the given portion of the moving-picture video signal; and

re-coding the first bitstream while performing code amount control in accordance with the target code amount, thus converting the first bitstream into the second bitstream to be recorded in the storage medium.

2. A moving-picture recording method comprising the steps of:

recording a first bitstream obtained by efficient coding of a moving-picture video signal in a first storage medium, under code amount control for targeting a given fixed transfer bit rate;

extracting, from the first bitstream, at least either information on code amount or information on quantization, as a parameter indicating moving-picture coding difficulty;

obtaining, from the parameter per given period, an amount of quasi-generated codes which is estimated to be

required for achieving a given picture quality;

adjusting the amount of quasi-generated codes for each of the given period to obtain a target code amount;

assigning the target code amount to a given portion of the moving-picture video signal so that a total code amount of the given portion of the moving-picture video signal matches a recordable total code amount for a second storage medium for storing the given portion of the moving-picture video signal; and

re-coding the first bitstream to convert the first bitstream into a second bitstream having a variable bit rate while performing code amount control in accordance with the target code amount; and

recording the second bitstream in the second storage medium at the variable bit rate.

3. A moving-picture code amount control apparatus comprising:

an information extractor to extract at least either information on code amount or information on quantization, as a parameter indicating moving-picture coding difficulty, from a first bitstream obtained by efficient coding of a moving-picture video signal, and obtain, from the parameter per given period, an amount of quasi-generated codes which is estimated to be required for achieving a given picture quality;

a target code amount setter to adjust an amount of quasi-generated codes for each of the given period to obtain a target code amount and assign the target code amount to a given portion of the moving-picture video signal so that a total code amount of the given portion of the moving-picture video signal matches a recordable total code amount for a storage medium for storing the given portion of the moving-picture video signal; and

an encoder to re-code the first bitstream while performing code amount control in accordance with the target

code amount, thus converting the first bitstream into a second bitstream to be recorded in the storage medium.

4. A moving-picture recording apparatus comprising:

a first recorder to record a first bitstream obtained by efficient coding of a moving-picture video signal in a first storage medium, under code amount control for targeting a given fixed transfer bit rate;

an information extractor to extract, from the first bitstream, at least either information on code amount or information on quantization, as a parameter indicating moving-picture coding difficulty, and obtain, from the parameter per given period, an amount of quasi-generated codes which is estimated to be required for achieving a given picture quality;

a target code amount setter to adjust an amount of quasi-generated codes for each of the given period to obtain a target code amount and assign the target code amount to a given portion of the moving-picture video signal so that a total code amount of the given portion of the moving-picture video signal matches a recordable total code amount for a second storage medium for storing the given portion of the moving-picture video signal;

a bitstream convertor to re-code the first bitstream while performing code amount control in accordance with the target code amount, thus converting the first bitstream into a second bitstream having a variable transfer bit rate; and

a recorder to recode the second bitstream in the second storage medium at the variable transfer bit rate.